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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,135	11/19/2003	Rongxin Pan	USP2293C-DRSH	9079
30265	7590	03/23/2006	EXAMINER	
RAYMOND Y. CHAN 108 N. YNEZ AVE., SUITE 128 MONTEREY PARK, CA 91754			RIELLEY, ELIZABETH A	
			ART UNIT	PAPER NUMBER
			2879	

DATE MAILED: 03/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/718,135

Applicant(s)

PAN ET AL.

Examiner

Elizabeth A. Rielley

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 December 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 17-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 17-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Amendment*

Amendment filed 12/30/05 has been entered and considered by the Examiner. Claims 1-16 have been canceled. Claims 17-24 have been added. Currently, claims 17-24 are pending in the instant application.

### *Claim Objections*

Claim 17 is objected to because of the following informalities: the phrase “for electrifying said mercury source *while electrical connection*” is unclear. For the purpose of the examination, the Examiner will understand this as “while electrically connected”. The phrase “sealedly mounted” is also not clear. Since “sealedly” is not clearly defined<sup>1</sup>, this phrase could mean either the upper head portion is part of the seal/forms a seal *or* the head portion is mounted into the tube within the seal or by the seal. For the purpose of the examination, the Examiner will understand this to be that the head portion is mounted and sealed within the tube, as shown in figure 2. Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

Claims 17, 18 and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishio et al (US 6437502) in view of Ge et al (US 6515433).

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<sup>1</sup> <http://www.m-w.com/cgi-bin/dictionary?book=Dictionary&va=sealedly&x=8&y=10>

In regard to claim 17, Nishio et al ('502) teach an illuminable unit, comprising: a light tube (18; figure 5; column 12 line 14 - column 13 line 18) and two end portions downwardly extended there from (41; figure 11; column 22 line 59 – column 24 line 49), wherein said light tube further has a light cavity containing a mercury source therein and filling with inert gas (column 12 lines 14-38), and a phosphor layer coated on an inner wall of said light tube (column 12 lines 14-38); a cathode terminal supported at one of said end portions of said light tube (cathode 45; not numbered; see figure 5); a conductor enclosure (not numbered: see figure 5) having an upper head portion sealed mounted within said respective end portion of said light tube in a concealed manner (see figure 5); wherein the conductor enclosure (see figure 5) is sealed at a bottom end of the respective end portion to conceal the head portion of the conductor enclosure within the end portion of the light tube (see figure 4) so as to seal the light cavity in an air tight manner (see figure 5; column 4 lines 3-22); and a conductor wire (48) electrically extended from said cathode terminal to an exterior of said light tube for electrifying said mercury source while electrical connection, wherein said conductor wire is securely held by the conductor enclosure (see figure 5) to coaxially extend within the respective end portion of the light tube so as to retain the conductor wire in position within the end portion of the light tube (see figures 4 and 5). Nishio et al ('502) are silent regarding the limitations of the light tube having a spiral shaped body and two end portions downwardly and integrally extended therefrom, wherein said two end portions of said light tube are extended in a parallel direction from the light body in a vertical extending manner, and the conductor enclosure has a length approximately equal to a length of each end portion of the light tube. Ge et al ('433) teach a light tube having a spiral shaped body (figures 21 and 22) and two end portions downwardly and integrally extended therefrom (see figures 21 and 22), wherein said two end portions of said light tube are extended in a parallel direction from the light body in a vertical extending manner (see figures 21 and 22), and the conductor enclosure (not numbered) has a length approximately equal to a length of each end portion of the light tube (see figures 21 and 22) in order to increase the light intensity of the device (column 3 line

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57 – column 4 line 12; column 14 lines 15-25). Hence, it would have been obvious at the time of the invention to one of ordinary skill in the art to combine the tube of Nishio et al ('502) with the shape and design of Ge et al ('433). Motivation to combine would be to increase the light intensity of the device.

In response to the limitation that the conductor enclosure is mounted in as way so as to substantially reduce an overall height of the illuminable unit, the Examiner notes that this is an intended use limitation. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham, 2 USPQ2d 1647 (1987)*.

In regard to claim 18, Nishio et al ('502) teach the conductor enclosure has an inner gas exhausting passage communicating with said light cavity (41; figure 5; column 14 lines 26-42) in order to discharge air from the tube (column 14 lines 28-30).

In regard to claims 21-24, Nishio et al ('502) teach a mercury source is amalgam integral with the light tube (46; figure 5; column 14 lines 26-43) in order to control the pressure vapor of the mercury within the light device (column 2 lines 53-60).

Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishio et al (US 6437502) in view of Ge et al (US 6515433) and in further view of Evans et al (US 4145634).

Nishio/Ge teach all the limitations set forth, as described above, except the mercury source is liquid mercury contained in the light tube. Evans et al ('634) teach the mercury source is liquid mercury contained in the light tube (column 1 lines 47-66) in order to ease the manufacturing of the light tube,

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since mercury is liquid at room temperature (column 5 lines 23-26). Hence, it would have been obvious at the time of the invention to one of ordinary skill in the art to combine the tube of Nishio/Ge with the liquid mercury of Evans. Motivation to combine would be to ease the manufacturing of the light tube.

### *Response to Arguments*

Applicant's arguments with respect to claims 15-24 have been considered but are moot in view of the new ground(s) of rejection.

### *Conclusion*

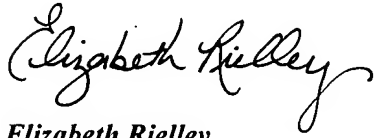
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth A. Rielley whose telephone number is 571-272-2117. The examiner can normally be reached on Monday - Friday 7:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on 571-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair->

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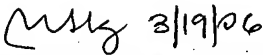
direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



*Elizabeth Rielley*

*Examiner*

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**MARICELI SANTIAGO**  
**PRIMARY EXAMINER**